

The first square in each column for each glove type is color coded. This is an easy-to-read indication of how we rate this type of glove in relation to its applicability for each chemical listed. The color represents an overall rating for both degradation and permeation. The letter in each square is for Degradation alone...

- GREEN: The glove is very well suited for application with that chemical.
- YELLOW: The glove is suitable for that application under careful control of its use.
- RED: Avoid use of the glove with this chemical.



CHEMICAL	VINYL GLOVES			LATEX GLOVES			NITRILE GLOVES		
	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	SAFEGUAD / STEREX	
	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate
1. Acetaldehyde	NR	—	—	E	7	F	E	10	F
2. Acetic Acid	F	180	—	E	110	—	E	260	—
3. Acetone	NR	—	—	E	10	F	G	10	G
4. Acetonitrile	NR	—	—	E	4	VG	E	10	VG
5. Acrylic Acid	NR	—	—	E	80	—	E	65	—
6. Acrylonitrile	—	—	—	—	—	—	—	—	—
7. Allyl Alcohol	P	60	G	E	>10	VG	E	20	VG
8. Ammonia Gas	—	6	VG	—	—	—	—	27	VG
9. Ammonium Fluoride, 40%	E	>360	—	E	>360	—	E	>360	—
10. Ammonium Hydroxide	E	240	—	E	90	—	E	240	—
11. Amyl Acetate	P	—	—	NR	—	—	P	—	—
12. Amyl Alcohol	G	12	E	E	25	VG	E	45	VG
13. Aniline	F	180	VG	E	25	VG	E	50	G
14. Aqua Regia	G	120	—	NR	—	—	G	180	—
15. Benzaldehyde	NR	—	—	G	10	VG	G	25	F
16. Benzene, Benzol	NR	—	—	NR	—	—	NR	—	—
17. Benzotrichloride	—	—	—	NR	—	—	NR	—	—
18. Benzotrifluoride	G	<10	F	P	50	G	—	—	—
19. Bromine Water	—	—	—	—	—	—	—	—	—
20. 1-Bromopropane	—	<10	F	—	<10	P	—	<10	P
21. Bromopropionic Acid	G	180	—	E	190	—	G	180	—
22. Butyl Acetate	NR	—	—	NR	—	—	P	—	—
23. Butyl Alcohol	G	180	VG	E	20	VG	E	45	VG
24. Butyl Carbitol	E	397	VG	E	44	G	E	148	G
25. Butyl Cellosolve	P	—	—	E	45	G	E	40	G
26. gamma-Butyrolactone	NR	—	—	E	60	G	E	100	F
27. Carbon Disulfide	NR	—	—	NR	—	—	NR	—	—
28. Carbon Tetrachloride	F	25	F	NR	—	—	NR	—	—
29. Cellosolve Acetate	NR	—	—	E	10	G	E	15	G
30. Cellosolve Solvent	P	—	—	E	25	VG	E	20	VG
31. Chlorine Gas	—	—	—	—	—	—	—	—	—
32. 2-Chlorobenzyl Chloride	F	65	E	F	20	F	—	—	—
33. Chlorobenzene	NR	—	—	NR	—	—	NR	—	—
34. Chloroform	NR	—	—	NR	—	—	NR	—	—
35. Chloronaphthalene	NR	—	—	NR	—	—	P	—	—
36. 2-Chlorotoluene	F	—	—	NR	—	—	NR	—	—
37. ortho-Chlorotoluene	F	—	—	NR	—	—	NR	—	—
38. Chromic Acid, 50%	G	>360	—	NR	—	—	NR	—	—
39. Citric Acid, 10%	E	>360	—	E	>360	—	E	>360	—
40. Cyclohexanol	E	360	E	E	10	G	E	20	G
41. Cyclohexanone	NR	—	—	P	—	—	P	—	—
42. 1, 5-Cyclooctadiene	P	—	—	NR	—	—	NR	—	—
43. Diacetone Alcohol	NR	—	—	E	15	VG	E	60	VG
44. Dibutyl Phthalate	NR	—	—	E	20	—	G	>360	E
45. Diethylamine	NR	—	—	NR	—	—	NR	—	—



How to Read the Charts

Three categories of data are represented for each of our products and corresponding chemical: 1) overall degradation resistance rating; 2) permeation breakthrough time, and 3) permeation rate.

Standards for Color-Coding

A glove-chemical combination receives GREEN if either set of the following conditions is met:

- The degradation rating is Excellent or Good
 - The permeation breakthrough time is 30 minutes or longer
 - The permeation rate is Excellent, Very Good, or Good.
- OR
- The permeation rate is not specified
 - The permeation breakthrough time is 240 minutes or longer
 - The degradation rating is Excellent, Very Good, or Good

A glove-chemical combination receives RED if: the degradation rating is Poor or Not Recommended, regardless of the permeation rating.

All other glove-chemical combinations receive YELLOW In other words, any glove-chemical combination not meeting either set of conditions required for Green, and not having a Red degradation rating of either Poor or Not Recommended, receives a YELLOW rating.

Key to Permeation Rate	
	Simply Stated, Drops/hr Through a Glove (eyedropper-size drops)
E – Excellent; permeation rate of less than 0.9 µg/cm ² /min.	0 to 1/2 drop
VG – Very Good; permeation rate of less than 9 µg/cm ² /min.	1 to 5 drops
G – Good; permeation rate of less than 90 µg/cm ² /min.	6 to 50 drops
F – Fair; permeation rate of less than 900 µg/cm ² /min.	51 to 500 drops
P – Poor; permeation rate of less than 9000 µg/cm ² /min.	501 to 5000 drops
NR – Not Recommended; permeation rate greater than 9000 µg/cm ² /min.	5001 drops up
Note: The current revision to the ASTM standard permeation test calls for permeation to be reported in micrograms of chemical permeated per square centimeter of material-exposed per minute of exposure, "µg/cm ² /min."	
Key to Permeation Breakthrough	
> Greater than (time)	< Less than (time)
Key to Degradation Ratings	
E – Excellent; fluid has very little degrading effect.	NOTE: Any test samples rated P (poor) or NR (not recommended) in degradation testing were not tested for permeation resistance. A dash (-) appears in those cases.
G – Good; fluid has minor degrading effect.	
F – Fair; fluid has moderate degrading effect.	
P – Poor; fluid has pronounced degrading effect.	
NR – Fluid was not tested against this material.	
Single palm thickness is listed in both mil and metric millimeter (mm) for Unsupported Gloves. Supported Gloves are specified by glove weight, not thickness.	

Note: All numeric designations within the product classifications are denoted in minutes.

A degradation test against this chemical was not run. However, since its breakthrough time is greater than 480 minutes, the Degradation Rating is expected to be **Good to Excellent**.

A degradation test against this chemical was not run. However, in view of degradation tests performed with similar compounds, the Degradation Rating is expected to be **Good to Excellent**.

***CAUTION:** This product contains natural rubber latex which may cause allergic reactions in some individuals.



CHEMICAL	VINYL GLOVES SAFEGUAD / STEREX			LATEX GLOVES SAFEGUAD / STEREX			NITRILE GLOVES SAFEGUAD / STEREX		
	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate
	46. Di-Isobutyl Ketone, DIBK	P	—	—	P	—	—	P	—
47. Dimethyl Acetamide, DMAC	NR	—	—	E	15	G	E	30	G
48. Dimethyl Formamide, DMF	NR	—	—	E	25	VG	E	40	G
49. Dimethyl Sulfoxide, DMSO	NR	—	—	E	180	E	E	150	E
50. Dioctyl Phthalate, DOP	NR	—	—	P	—	—	E	>360	E
51. Dioxane	NR	—	—	F	5	F	F	15	F
52. Electroless Copper	E	>360	—	E	>360	—	—	—	—
53. Electroless Nickel	E	>360	—	E	>360	—	E	>360	—
54. Epichlorohydrin	NR	—	—	E	5	F	E	15	G
55. Ethidium Bromide, 10%	—	—	—	—	—	—	—	—	—
56. Ethyl Acetate	NR	—	—	G	5	F	F	10	F
57. Ethyl Alcohol	G	60	VG	E	37	VG	E	20	G
58. Ethylene Dichloride	NR	—	—	P	—	—	P	—	—
59. Ethylene Glycol	E	>360	E	E	>360	E	E	>480	E
60. Ethylene Oxide Gas	—	—	—	—	—	—	—	—	—
61. Ethyl Ether	NR	—	—	NR	—	—	NR	—	—
62. Ethyl Glycol Ether	P	—	—	E	25	VG	E	20	VG
63. Formaldehyde	E	100	VG	E	10	G	E	15	VG
64. Formic Acid, 90%	E	>360	—	E	150	—	E	>360	—
65. Furfural	NR	—	—	E	15	VG	E	40	G-VG
66. Glutaraldehyde, 25%	E	>360	E	E	210	VG	E	—	—
67. Gasoline (hi-test)	P	—	—	NR	—	—	NR	—	—
68. HCFC-141b	NR	—	—	NR	—	—	NR	—	—
69. HFE 7100	E	>480	E	E	120	E	—	—	—
70. HFE 71DE	NR	—	—	NR	—	—	NR	—	—
71. Hexamethyldisilazane	P	—	—	F	15	F	F	40	F-G
72. Hexane	NR	—	—	NR	—	—	P	—	—
73. Hydrazine, 65%	E	>360	—	E	150	VG	E	>360	—
74. Hydrobromic Acid	E	>360	E	E	>360	E	E	>360	E
75. Hydrochloric Acid, conc.	E	>300	—	E	290	—	E	>360	—
76. Hydrochloric Acid, 10%	E	>360	—	E	>360	—	E	>360	—
77. Hydrofluoric Acid, 48%	G	155	—	E	190	—	E	153	—
78. Hydrogen Fluoride Gas	—	—	—	E	<15	F	—	<15	F
79. Hydrogen Peroxide, 30%	E	>360	—	E	>360	—	G	90	—
80. Hydroquinone, saturated	E	>360	E	G	>360	E	E	>360	—
81. Hypophosphorus Acid	—	—	—	E	>480	—	—	—	—
82. Isobutyl Alcohol	F	10	VG	E	15	VG	E	45	VG
83. Iso-Octane	P	—	—	NR	—	—	P	—	—
84. Isopropyl Alcohol	G	150	E	E	20	VG	E	40	VG
85. Kerosene	F	>360	E	NR	—	—	P	—	—
86. Lactic Acid, 85%	E	>360	E	E	>360	—	E	>360	—
87. Lauric Acid, 36%/EtOH	F	15	—	E	>360	—	E	>360	—
88. d-Limonene	G	125	G	NR	—	—	NR	—	—
89. Maleic Acid, saturated	G	>360	—	E	>360	—	E	>360	—
90. Mercury	—	>480	E	—	>480	E	—	—	—

CHEMICAL	VINYL GLOVES SAFEGUAD / STEREX			LATEX GLOVES SAFEGUAD / STEREX			NITRILE GLOVES SAFEGUAD / STEREX		
	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate	Degradation Rating	Permeation: Breakthrough	Permeation: Rate
	91. 1-methoxy-2-acetoxypropane	P	—	—	G	13	F	G	18
92. Methyl Alcohol	G	45	G	E	20	VG	E	20	VG
93. Methylamine	E	135	VG	E	55	VG	E	80	VG
94. Methyl Cellosolve	P	—	—	E	20	VG	E	20	VG
95. Methylene Bromide	NR	—	—	NR	—	—	NR	—	—
96. Methylene Chloride	NR	—	—	NR	—	—	NR	—	—
97. MDI (Isocyanate)	—	—	—	—	—	—	—	>480	E
98. Methyl Amyl Ketone	NR	—	—	F	<10	F	F	<10	F
99. Methyl Ethyl Ketone, MEK	NR	—	—	F	5	F	P	—	—
100. Methyl Glycol Ether	P	—	—	E	20	VG	E	20	VG
101. Methyl Iodide	NR	—	—	NR	—	—	NR	—	—
102. Methyl Isobutyl Ketone	NR	—	—	P	—	—	P	—	—
103. Methyl Methacrylate	NR	—	—	P	—	—	NR	—	—
104. N-Methyl-2-Pyrrolidone	NR	—	—	E	75	VG	F	40	G
105. Methyl t-Butyl Ether	NR	—	—	NR	—	—	NR	—	—
106. Mineral Spirits, rule 66	F	150	VG	NR	—	—	G	20	F
107. Monoethanolamine	E	>360	E	E	50	E	E	50	E
108. Morpholine	NR	—	—	G	20	G	E	30	F-G
109. Muriatic Acid	E	>300	—	E	290	—	E	>360	—
110. Naphtha VM&P	F	120	VG	NR	—	—	NR	—	—
111. Nitric Acid, 10%	G	>360	—	G	>360	—	E	>360	—
112. Nitric Acid, 70%	F	104	—	NR	—	—	G	90	—
113. Nitric Acid, Red Fuming	P	—	—	NR	—	—	NR	—	—
114. Nitrobenzene	NR	—	—	F	15	G	F	40	G
115. Nitromethane, 95.5%	P	—	—	E	10	G	E	30	VG
116. Nitropropane, 95.5%	NR	—	—	E	5	G	E	10	G
117. Octyl Alcohol	F	>360	E	E	30	VG	E	53	G
118. Oleic Acid	F	90	VG	F	>360	—	G	120	—
119. Oxalic Acid, saturated	E	>360	—	E	>360	—	E	>360	—
120. Pad Etch 1 (Ashland Chem.)	E	>360	—	E	>360	—	E	>360	—
121. Palmitic Acid, saturated	G	75	—	G	5	—	E	193	—
122. Pentane	NR	—	—	P	—	—	E	13	G
123. Pentachlorophenol, 5%	F	180	E	NR	—	—	—	—	—
124. Perchloric Acid, 60%	E	>360	—	F	>360	—	E	>360	—
125. Perchloroethylene	NR	—	—	NR	—	—	NR	—	—
126. Phenol	G	75	VG	E	90	—	E	180	—
127. Phosphoric Acid, conc.	G	>360	—	F	>360	—	G	>360	—
128. PMA Glycol Ether Acetate	P	—	—	G	13	F	G	18	F
129. Potassium Hydroxide, 50%	E	>360	—	E	>360	—	E	>360	—
130. Propane Gas	—	7	VG	—	—	—	—	—	—
131. Propyl Acetate	NR	—	—	P	—	—	P	—	—
132. Propyl Alcohol	F	90	VG	E	20	VG	E	30	VG
133. Propylene Oxide	NR	—	—	P	—	—	P	—	—
134. Pyridine	NR	—	—	F	10	F	P	—	—
135. Rubber Solvent	NR	—	—	NR	—	—	NR	—	—

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136. Silicon Etch	F	150	—	NR	—	—	P	—	—
137. Skydrol hydraulic fluid	NR	—	—	NR	—	—	NR	—	—
138. Sodium Hydroxide, 50%	G	>360	—	E	>360	—	E	>360	—
139. Stoddard Solvent	F	360	E	NR	—	—	G	10	F
140. Styrene	NR	—	—	NR	—	—	NR	—	—
141. Sulfur Dichloride	—	—	—	NR	—	—	—	—	—
142. Sulfuric Acid, 95%	G	70	—	NR	—	—	NR	—	—
143. Sulfuric Acid 120%, Oleum	F	25	G	—	—	—	—	—	—
144. Sulfuric 47% battery acid	G	>360	—	E	>360	—	E	>360	—
145. Tannic Acid, 65%	E	>360	E	E	>360	—	E	>360	—
146. Tetrachloroethene	NR	—	—	NR	—	—	NR	—	—
147. Tetrahydrofuran, THF	NR	—	—	NR	—	—	NR	—	—
148. Toluene, toluol	NR	—	—	NR	—	—	NR	—	—
149. Toluene Di-Isocyanate (TDI)	P	—	—	G	7	G	—	—	—
150. Triallylamine	—	—	—	—	—	—	—	—	—
151. Trichloroethylene, TCE	NR	—	—	NR	—	—	NR	—	—
152. Trichlorotrifluoroethane	NR	—	—	NR	—	—	NR	—	—
153. Tricresyl Phosphate, TCP	F	>360	E	E	45	E	E	>360	E
154. Triethanolamine, 85%	E	>360	E	G	>360	E	E	—	—
155. Turpentine	P	—	—	NR	—	—	NR	—	—
156. Vertrel MCA	G	13	F	G	<10	F	G	<10	F
157. Vertrel SMT	G	<10	F	F	<10	F	P	—	—
158. Vertrel XE	G	303	E	E	17	VG	E	43	VG
159. Vertrel XF	E	>480	E	E	337	VG	E	204	VG
160. Vertrel XM	P	—	—	E	23	VG	E	30	VG
161. Vinyl Acetate	—	—	—	—	—	—	—	—	—
162. Vinyl Chloride Gas	—	—	—	—	—	—	—	—	—
163. Xylene, Xylol	NR	—	—	NR	—	—	NR	—	—

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